Remarks/Arguments:

This is a reply to the office action of November 2.

In the action, the drawings were objected to for not showing the various pin shapes recited in claims 8 - 11. We have added sectional views (Figs. 6 - 9) to support these claims. No new matter is added, the matter having been described in the original claims and in the paragraph at page 6, lines 7 - 13 of the international application which is now this application. An editorial correction has been made in claim 1.

The rejection of claim 1 as anticipated by U.S. Patent 686,940 to Huscher is respectfully traversed.

Huscher discloses a bicycle lock for blocking rotation of the crankshaft of a bicycle. The lock comprises a locking bolt B having at its lower end a bolt b. In a blocking state of the bicycle lock, the bolt b extends from the bottom of the saddle tube into a recess 3 in the crankshaft. Upon receipt of the bottom bolt end by the recess, the crankshaft is blocked against rotation, thereby locking the bicycle, see e.g. Figure 2.

Huscher's bolt b is centered with respect to a casing of the bicycle lock, see page 1, lines 90 and 102 and the corresponding drawings. Further, the bottom end of the bolt is round, as described a page 1, line 85. In the process of assembling the lock in the saddle tube of a bicycle, a lock housing is secured by screws x (Fig. 2) which pass through the saddle tube and into the lock housing, see page 1, line 76. By removing these screws, even when the lock had been activated, a thief might defeat Huscher's lock. Once the screws were removed, he could move the bolt up inside the tube until bolt tip was withdrawn from the recess in the crankshaft. Since Huscher's bolt is both round and centered within the seat tube, the bolt can be rotated, even in the "locked" position of the mechanism.

The bicycle lock according to claim 1 differs from the lock disclosed in Huscher in that the lock housing of the claimed bicycle lock is coupled to the saddle tube by a rotating coupling and that the locking pin is prevented from rotating, when it is engaged in the crankshaft recess. This prevents a thief from defeating the lock, e.g., by removing the seat and inserting a tool down the seat tube to unscrew the mechanism. The mechanism cannot be turned until the bolt is withdrawn from the crankshaft recess the proper way - by operating the key. The examiner referred to page 2, lines 56 - 61 of Huscher; however, we think this passage refers not to the connection between the lock housing and the seat tube, but rather between the keying mechanism and the lock housing. It seems clear from the drawings and the rest of the description that Huscher's mechanism is simply dropped down the seat tube, and secured at the bottom by screws, rather than having a rotatable connection (e.g., applicant's item 12, Fig. 1). What Huscher describes as being retained by threads is the key barrel E (Fig. 7), which has a threaded connection to the lock mechanism, but not to the seat tube. Claim 1 distinguishes this invention from Huscher in calling for "the lock housing being coupled to the saddle tube by a rotating coupling, the locking pin in the lower position thereof blocking the rotation of the coupling between the lock housing and the saddle tube."

Without diminishing Huscher, the present invention provides an added measure of protection against a determined thief. It also makes the use of retaining screws unnecessary.

We believe that claim 1 is not only novel over Huscher, but also non-obvious, in part because Huscher contains no teaching or incentive to provide a locking pin that not only blocks rotational movement of the crankshaft of the bicycle but also blocks rotation of the lock housing with respect to the saddle tube.

Claims 2 - 15 are deemed allowable both because they depend from claim 1, and for the additional limitations each claim recites, in combination with those of its parent claim(s).

Claims 8 and 11 were rejected as an obvious matter of design choice over Huscher. We would agree, if the subject matter of claim 1, particularly the rotation blocking pin, were disclosed by Huscher. However, we believe claim 1 to be patentable for reasons stated above. Claims 8 - 11 set out preferred pin shapes, and also imply that claim 1 is not limited to just those shapes. For example, in addition to the shapes recited in claims 8 - 11, the invention can also be implemented by a pin having a non-circular peripheral contour and/or a non-centered pin.

Claim 15 was rejected as obvious over Huscher in view of Ragsdale (Patent 4284290). We understand that Ragsdale was applied particularly against claim 15, and that Ragsdale shows an internal bike lock having a cable component. However, in our view, it does not overcome Huscher's deficiencies with respect to claim 1.

We believe that the claims presented patentably distinguish the invention from the prior art of record, and that this invention is now in proper condition for allowance.

Respectfully submitted,

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